Complete Summary

GUIDELINE TITLE

Lung cancer.

BIBLIOGRAPHIC SOURCE(S)

Lung cancer. Philadelphia (PA): Intracorp; 2005. Various p. [30 references]

GUIDELINE STATUS

This is the current release of the guideline.

All Intracorp guidelines are reviewed annually and updated as necessary, but no less frequently than every 2 years. This guideline is effective from July 1, 2005 to July 1, 2007.

COMPLETE SUMMARY CONTENT

SCOPE

DISEASE/CONDITION(S)

Lung cancer, including

- Small-cell lung cancer (SCLC)
- Non-small cell lung cancer (NSCLC)

GUIDELINE CATEGORY

Diagnosis
Evaluation
Management

Risk Assessment
Treatment

CLINICAL SPECIALTY

Family Practice
Internal Medicine
Oncology
Pulmonary Medicine
Radiation Oncology
Thoracic Surgery

INTENDED USERS

Allied Health Personnel
Health Care Providers
Health Plans
Hospitals
Managed Care Organizations
Utilization Management

GUIDELINE OBJECTIVE(S)

To present recommendations for the diagnosis, treatment, and management of lung cancer that will assist medical management leaders to make appropriate benefit coverage determinations

TARGET POPULATION

Individuals with suspected or known lung cancer

INTERVENTIONS AND PRACTICES CONSIDERED

Diagnosis/Evaluation

1. Physical examination and assessment of signs and symptoms
2. Diagnostic tests:
    - Chest x-ray
    - Computerized tomography (CT) scan
    - Magnetic resonance imaging (MRI) if needed
    - Fiberoptic bronchoscopy
    - CT-guided or ultrasound (US)-guided "closed lung" biopsy
    - Transthoracic needle aspiration (TTNA)
    - Transbronchial needle aspiration (TBNA)
    - Open lung biopsy with wedge resection if needed
    - Lymph node biopsy
    - Pleural fluid sampling
    - Thoracentesis
    - Fluorescent bronchofibroscopy
    - Mediastinoscopy (endoscopic)
    - Bone marrow aspiration if necessary

    - Blood studies
    - Sputum cytology
3. Staging

Management/Treatment

1. Surgical treatment, including mediastinoscopy, intraoperative lymph node dissection, lobectomy/pneumonectomy, sleeve resection
2. Chemotherapy alone or as adjunctive therapy
3. Radiation therapy
4. Smoking cessation
5. Palliative care
6. Referral to specialists as indicated
7. Physical therapy
8. Durable medical equipment
9. Case management

The following interventions were considered but not specifically recommended under "Treatment Options" in the original guideline document:

1. Chemoradiation
2. Brachytherapy
3. Photodynamic therapy

MAJOR OUTCOMES CONSIDERED

- Risk factors and prognosis
- Effectiveness of treatment
    - Survival and recurrence rates
    - Symptom relief
- Safety of treatment

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Hand-searches of Published Literature (Primary Sources)
Hand-searches of Published Literature (Secondary Sources)
Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

Searches were performed of the following resources: reviews by independent medical technology assessment vendors (such as the Cochrane Library, HAYES); PubMed; MD Consult; the Centers for Disease Control and Prevention (CDC); the U.S. Food and Drug Administration (FDA); professional society position statements and recommended guidelines; peer reviewed medical and technology publications and journals; medical journals by specialty; National Library of Medicine; Agency for Healthcare Research and Quality; Centers for Medicare and Medicaid Services; and Federal and State Jurisdictional mandates.

NUMBER OF SOURCE DOCUMENTS

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Weighting According to a Rating Scheme (Scheme Not Given)

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Not stated

METHODS USED TO ANALYZE THE EVIDENCE

Review
Review of Published Meta-Analyses

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Not stated

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Expert Consensus (Delphi)

DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

A draft Clinical Resource Tool (CRT or guideline) is prepared by a primary researcher and presented to the Medical Technology Assessment Committee or the Intracorp Guideline Quality Committee, dependent upon guideline product type.

The Medical Technology Assessment Committee is the governing body for the assessment of emerging and evolving technology. This Committee is comprised of a Medical Technology Assessment Medical Director, the Benefit and Coverage Medical Director, CIGNA Pharmacy, physicians from across the enterprise, the Clinical Resource Unit staff, Legal Department, Operations, and Quality. The Intracorp Guideline Quality Committee is similarly staffed by Senior and Associate Disability Medical Directors.

Revisions are suggested and considered. A vote is taken for acceptance or denial of the CRT.

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Not applicable

COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

METHOD OF GUIDELINE VALIDATION

Comparison with Guidelines from Other Groups
Internal Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

Not stated

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

Diagnostic Confirmation

Subjective Findings

- Systemic
  - Weight loss
  - Anorexia
  - Fever
  - Night sweats
- Local
  - Cough
  - Wheeze or stridor
  - Dyspnea
  - Hemoptysis
  - Hoarseness
  - Recurrent pneumonias
- Intrathoracic metastases
  - Difficulty swallowing
  - Shortness of breath
  - Hoarseness
- Extrathoracic metastases
  - Seizures or confusion
  - Bony pain
  - Jaundice

Objective Findings

- Palpable lymphadenopathy or other kind of palpable mass
- Wheeze
- Pleural or pericardial effusion
- Superior vena cava (SVC) syndrome with facial swelling
- Laryngeal nerve compression
- Horner's syndrome
  - Jaundice from liver metastases

- Cushing's syndrome from hormone-secreting tumors (ectopic adrenocorticotrophic hormone [ACTH] production)
- Weakness or paralysis from peripheral neuropathy, spinal cord compression, or spinal metastases
- Hypercalcemia with excess parathyroid hormone production

Diagnostic Tests

- Chest x-ray (see the Intracorp guideline Imaging: Chest)
    - Stage, localize, and discover pulmonary nodules, atelectasis, infection, or densities
- Computerized tomography (CT) scan
    - Stage, localize, and discover pulmonary nodules, atelectasis, infection, or densities
    - Primary choice to discover extent of metastasis to bone, brain, liver, or lung
- Magnetic Resonance Imaging (MRI)
    - Use when x-ray and CT reveal insufficient information
- Fiberoptic bronchoscopy, "closed lung" biopsy with sputum cytology (see the Intracorp guideline Bronchoscopy)
    - Techniques include transbronchial lung biopsy, transbronchial needle aspiration biopsy, and transcatheter bronchial brushing
- CT-guided or ultrasound (US)-guided, "Closed lung" biopsy
    - Percutaneous needle aspiration biopsy; has potential for damaging major blood vessels and is usually performed after x-rays are obtained
- Transthoracic needle aspiration (TTNA) - for diagnosis of malignant pulmonary lesions
- Transbronchial needle aspiration (TBNA)- yields definitive histopathologic and microbiologic results
- Open lung biopsy with wedge resection
    - Requiring general anesthesia, open lung biopsy with wedge resection is done when less invasive procedures provide inadequate information for staging and treatment decisions
- Lymph node biopsy
    - Performed for staging purposes to determine degree of metastasis and extent of surgery needed
- Pleural fluid sampling
    - Determines if lung pleura are affected and the extent
- Thoracentesis
    - Obtained primarily at initial disease presentation; thoracentesis fluid may yield neoplastic cells indicative of lung cancer
- Fluorescent bronchofibroscopy
    - May be done early to fiberoptically detect bronchogenic cancer cells that absorb dye and reflect fluorescently under ultraviolet (UV) light
- Mediastinoscopy (endoscopic)
    - Used to examine the hilar lymph nodes (right and left lungs) for presence of cancer metastasis and to biopsy tissue
- Bone marrow aspiration
    - Done only when symptoms of bone metastasis are present to discover its extent
- Blood studies
    - Hypercalcemia may be present due to metastatic bone disease

- Sputum cytology

Differential Diagnosis

- Tuberculosis
- Chronic fungal infections
- Metastatic cancer
- Benign neoplasia

Treatment

Treatment Options

- Non-small cell cancers (NSCLC)
    - Stages I, II, and III: excision surgery, if the patient can tolerate the operation
    - Localized cancers: surgical removal of tumor is the treatment of choice
    - Surgery Setting: Primarily: acute inpatient
    - Adjuvant chemotherapy, efficacy and role being studied (see the Intracorp guideline Chemotherapy)
    - Chemotherapy Setting: Primarily: clinic or free-standing outpatient, physician's office, or home care. Possibly: acute inpatient, subacute/skilled nursing facility inpatient, or hospice inpatient
- Small cell lung cancer (SCLC), topic of ongoing research and controversy
    - Chemotherapy alone, usual treatment choice (see the Intracorp guideline Chemotherapy)
    - Chemotherapy Setting: Primarily: clinic or free-standing outpatient, physician's office, or home care. Possibly: acute inpatient, subacute/skilled nursing facility inpatient, or hospice inpatient
    - Note: Postoperative radiation may be detrimental in early-stage completely-resected SCLC
- Palliative care, for symptom management
    - Setting: Primarily: clinic or free-standing outpatient, physician's office, home care, or hospice inpatient. Possibly: acute inpatient or subacute/skilled nursing facility inpatient
- Smoking cessation (essential)
    - Setting: Primarily: self-administered

Duration of Medical Treatment

- Medical - Optimal: 3 day(s), Maximal: 42 day(s)
    - Treatment is lifelong in palliative cases due to high mortality rate.
    - For those patients with treatments aimed at potential cure, duration depends largely on type of and response to treatment.
- Surgical - Optimal: 28 day(s), Maximal: 90 day(s)
    - Cancer cell histology and extent of disease will determine need for treatment

Additional information regarding primary care visit schedules, referral options, specialty care, physical therapy, and durable medical equipment is provided in the original guideline document.

The original guideline document also provides a list of red flags that may affect disability duration, and return to work goals, including

- Resolving dyspnea, cough, pain after bronchoscopy and/or lung biopsy
- After chemotherapy and/or radiation therapy
- After hospitalization for lobectomy or pneumonectomy

Note: Some patients with this condition may never return to work.

Case Management Directives (refer to the original guideline for detailed recommendations)

Case Initiation

Establish Case

- Document baseline information, history, key physical findings, patient's understanding, and safety factors.
- See Chemotherapy Chart in the original guideline document.
- The American Joint Committee on Cancer encourages use of the "TNM" classification system (T=primary tumor size; N=lymph node involvement; M=metastasis).
- Provide contact information for local and national support groups.

Coordinate Care

- Advocate for patient by managing utilization and charges.
- Document treatment plan.

Case Management Focus

Activity Deficit

- Document activity alteration as none, mild, moderate, severe, dependent, or bed-bound (based on most recent performance status) and interventions required.

Chemotherapy Intolerance

- Assess status, acute versus chronic, of toxic side effects on rapidly growing tissues, including bone marrow, epithelium, hair, sperm, and document intervention recommended.

Hemodynamic Instability

- Document bleeding complications, severity, and intervention recommended.

Immune Compromised

- Document establishment of protective isolation measures for a white blood cells count (WBC) less than 1,000/mm^3, implying dangerous susceptibly to infection.

Inadequate Nutrition

- Use optimal goal of remaining within 10% of pretreatment weight to document hydration and nutrition deficit as mild, moderate, severe and response needed.

Mental and Emotional Alteration

- Ensure accurate diagnosis of any change in mental status.
- Document baseline or optimal mental and emotional functioning and their alterations due to cancer presence, comorbidity, surgery, or treatments.
- Assess and respond appropriately to the degree of debility caused by alterations listed in the original guideline document through benefit coordination or community resource activation.

Pain Control

- Document optimal pain management by characterizing severity and interventions undertaken to remedy or manage pain.

Oncologic Emergencies

- Immediately report to the surgeon or activate emergency medical technician (EMT) system as necessary for airway incompetence; breathing difficulties or obstruction; bleeding at surgical site or from suctioning (critical: carotid artery rupture); fistula formation; local infection or sepsis.
- Document presence of or developing oncologic emergencies and report to attending physician, surgeon, or activate EMT system as necessary.

Radiation Intolerance

- Document presence and severity of radiation side effects.
- Initiate early interventions for complications of radiation therapy.

Respiratory Instability

- Periodically assess level of dependence upon supplemental oxygen and maintain at lowest level possible: infrequent or short duration, intermittent or moderate duration, frequent or longer duration, and life-sustaining.
- Determine pulmonary reserves and extent of pulmonary debility, before surgery to determine if tumor removal is a viable option and periodically after surgery.
- Document respiratory deficit as mild, moderate, severe, and dependent, and respiratory rehabilitation enhancement measures.

Skin Integrity Deficit

- Assess barriers to rehabilitation involving surgical drains or incision complications and frequency of nursing interventions necessary to expedite recuperation.
- Document severity of skin integrity disruption.

Terminal Care

- Document optimal comfort measures and palliative care initiatives.

Discharge

Discharge from Case Management (CM)

- Document return to independence or stabilized functional status and closing conversations with patient, caregiver, physician, pharmacist, and care providers.

CLINICAL ALGORITHM(S)

None provided

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The type of supporting evidence is not specifically stated for each recommendation.

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

Appropriate diagnosis, treatment, and management of lung cancer that assist medical management leaders to make appropriate benefit coverage determinations

POTENTIAL HARMS

Diagnostic Tests

Percutaneous needle aspiration biopsy has potential for damaging major blood vessels and is usually performed after x-rays are obtained.

Adverse Effects of Chemotherapy

- Nausea and vomiting
- Neutropenia
- Blood chemistry abnormalities
- Cumulative cardiac toxicities

- Pulmonary toxicities
- Dysmenorrhea
- Chromosomal abnormalities

Refer to the Chemotherapy Chart in the original guideline document for additional information on adverse effects of medications.

Adverse Effects and Complications of Radiation Therapy

- Anorexia, dry mouth, loss of taste, nausea and vomiting, diarrhea
- Alopecia, skin reactions
- Bleeding
- Burns
- Fatigue, lethargy
- Anemias, infection
- Cor pulmonale, pericarditis
- Esophagitis
- Myelitis
- Pneumonitis
- Pulmonary fibrosis

Surgery

Although sleeve lobectomy has been widely accepted because of its low complication and recurrence rate, both of which are equivalent to or better than pneumonectomy, sleeve lobectomy is performed only in highly selected cases in young patients because of its high mortality rate (10 to 30%) and overall limited prognosis (5-year survival rate, 20 to 40%).

CONTRAINDICATIONS

CONTRAINDICATIONS

Refer to the Chemotherapy Chart in the original guideline document for contraindications to chemotherapeutic agents.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

End of Life Care
Living with Illness

IOM DOMAIN

Effectiveness

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

Lung cancer. Philadelphia (PA): Intracorp; 2005. Various p. [30 references]

ADAPTATION

Not applicable: The guideline was not adapted from another source.

DATE RELEASED

2005

GUIDELINE DEVELOPER(S)

Intracorp - Public For Profit Organization

SOURCE(S) OF FUNDING

Intracorp

GUIDELINE COMMITTEE

CIGNA Clinical Resources Unit (CRU)
Intracorp Disability Clinical Advisory Team (DCAT)
Medical Technology Assessment Committee (MTAC)
Intracorp Guideline Quality Committee

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

Not stated

FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Not stated

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GUIDELINE AVAILABILITY

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Reprints of complete guideline content may be purchased for $35.00 per title (plus tax in TX at 8.25% and CT at 1.0%). Please send e-mail request to lbowman@mail.intracorp.com.

AVAILABILITY OF COMPANION DOCUMENTS

The following are available:

- Policies and procedures. Medical Technology Assessment Committee Review Process. Philadelphia (PA): Intracorp; 2004. 4 p.
- Online guideline user trial. Register for Claims Toolbox access at www.intracorp.com.

Licensing information and pricing: Available from Intracorp, 1601 Chestnut Street, TL-09C, Philadelphia, PA 19192; e-mail: lbowman@mail.intracorp.com.

PATIENT RESOURCES

None available

NGC STATUS

This NGC summary was completed by ECRI on August 19, 2005. The information was verified by the guideline developer on September 2, 2005.

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